VOLOSHINSKIY, A.N.

Theory of the anomalous Hall effect in ferromagnetic metals at low temperatures. Fiz. met. i metalloved. 18 no.4:492-501 O '64. (MIRA 18:4)

1. Institut fiziki metallov AN SSSR.

VOLOSHINSKIY, A.N.

Description of electron - phonon interaction by Green's functions. Nauch.dokl.vys.shkoly; fiz.-mat.nauki no.3: 126-131 '59. (MIRA 13:6)

1. Ural'skiy lesotekhnicheskiy institut.
(Mathematical physics) (Electrons—Scattering)

VOLOSHINSKIY, A.N.

Scattering electrons by vibrations of the lattice. Nauch.dokl. vys.shkoly; fiz.-mat.nauki no.3:132-140 '59. (MIRA 13:6)

1. Ural'skiy lesotekhnicheskiy institut.
(Electrons—Scattering)

L 16493-65 EPA(s)-2/EWT(l)/EWT(m)/EWP(t)/EWA(d)/EWP(t) Pt-10 ESD(c)/
SSD/AFWL/AS(mp)-2/ASD(p)-3/AFMD(t)/LJP(t) GG/JD S/0126/64/018/001/0010/0019
ACCESSION NR: AP4042804

AUTHOR: Voloshinskiy, A. N. B

TITLE: Comments on the theory of certain anomalous kinetic phenomena in ferromagnetic materials 21,16

SOURCE: Fizika metallov i metallovedeniye, v. 18, no. 1, 1964, 10-19

TOPIC TAGS: optical transmittance, spin, orbit, conduction electron Hall coefficient, Kerr effect, Faraday effect

ABSTRACT: The author gives equations for the calculation of the tensor of the complex light transmittance taking into account the interaction between the magnetic electron spin and the orbit of the conduction electron. The spin orbital interaction is described by a certain effective field that depends on temperature and the state of the electron. The temperature dependence is readily determined by the product of the anomalous Hall coefficient and by magnetization. The author proposes to separate the mechanism of the development of the anomalous Hall effect and of corrollary phenomena by observing the temperature and, particularly, the frequency dependences of the magnetic and optical Kerr and Faraday effects in the

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ACCESSION NR: AP4042804

far infra-red region of the spectrum where quantum transitions are absent and where the dispersion of gyromagnetic properties of the medium is negligible.
The author acknowledges the contribution of Ye. A. Turov, Yu. P. Irkhin and A. V. Sokolov. Orig. art. has: 36 equations.

ASSOCIATION: Institut fiziki metallov AN SSSR (Institute of the Physics of Metals, AN SSSR)

SUBMITTED: 16Jan64 ENCL: 00

SUB CODE: MM, GC NO REF SOV: 012 OTHER: 005

Card 2/2

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001860710020-6"

SOV/126-7-4-23/26

AUTHOR: Voloshinskiy, A.N.

TITLE: Application of the Green Function in the Quantum Theory of the Electrical Conductivity of Metals

PERIODICAL: Fizika metallov i metallovedeniye, 1959, Vol 7, Nr 4, pp 635-637 (USSR)

ABSTRACT: Bloch formulae for the probability of electron-phonon collisions which lie at the basis of the quantum theory of the electrical conductivity of metals are a result of first order approximations on the perturbation theory. When the electron-phonon interaction is described by Green functions, this corresponds to the fact that the mass and polarization operators are omitted in the basic equations. At the same time, using the fact that the phonon momentum is small compared with the Fermi momentum of the electron (which should hold at least at low temperatures), it is possible to find the probability of scattering of an electron by the phonon field, taking the mass operator into account as well. This is done by the method of functional averaging. These probabilities are then given by Eq (1) in which E_o is a constant connected with the Bloch constant C

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Application of the Green Function in the Quantum Theory of the Electrical Conductivity of Metals

which determines the magnitude of the electron-phonon interaction. The remaining symbols are the same as in Ref 1 (Bethe and Sommerfeld). It is then possible to show that if the polarization operator is taken into account, the result is not appreciably affected and only the constant E_o is changed. It follows from Eq (1) that the application of the Born perturbation theory, even for low coupling constants, cannot be justified in the low temperature region, since this involves an expansion in series in powers of $E_o/\chi T$. On the other hand, the perturbation theory is justified even for large coupling constants, provided the temperature is high enough. Thus, calculations lead to the conclusion that virtual processes are important at low temperatures but do not play an appreciable role at high temperatures. These results are used in estimating the residual resistance for Na. Numerical results agree with experiment to within an order of magnitude. There are

SOV/126-7-4-23/26

Application of the Green Function in the Quantum Theory of the Electrical Conductivity of Metals

6 references, 2 of which are Soviet, 3 English and 1 Norwegian

ASSOCIATION: Ural'skiy lesotekhnicheskiy institut (Ural Forestry Institute)

SUBMITTED: January 7, 1959

Card 3/3

EWT(m)/EWG(b)-2/EWP(e)/EWP(b) Pad LJP(c)

L 500 [illegible] 38 UR/0126/65/019/005/0660/0666

ACCESSION NR: AP5013807 539.292 538.01

AUTHOR: Voloshinskiy, A. N.; Gusev, B. S.

TITLE: Theory of Kerr and Faraday effects in ferromagnetic alloys

SOURCE: Fizika metallov i metallovedeniye, v. 19, no. 5, 1965, 660-666

TOPIC TAGS: Kerr effect, Faraday effect, anomalous Hall effect, effective magnetic field, spin orbital interaction, electron scattering, conduction electron, ferromagnetic alloy

ABSTRACT: A recent spate of studies of the anomalous Hall effect in ferromagnetic metals has shown by direct calculations that generally the effect of spin-orbital interaction on the scattering of conduction electrons cannot be described by means of the effective magnetic field. For example, the effect of this interaction on electron-phonon collisions cannot be described by introducing some internal magnetic field. These features of the incorporation of spin-orbital interaction in various mechanisms of the scattering of conduction electrons affect markedly the frequency relations of the Kerr and Faraday effects in the infrared portion of the spectrum (2 to 30 μ).

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L 56078-65

ACCESSION NR: AP5013807

Therefore, investigating the variance of the Kerr and Faraday effects in this portion of the spectrum may assist greatly in determining the principal mechanism of the influence of spin-orbital interaction in both magneto-optical effects and the anomalous Hall effect. From this standpoint, the influence of spin-orbital interaction on the scattering of conduction electrons in ferromagnetic metals by impurities is of special interest. Accordingly, the authors calculated the frequency dependence of the mean-velocity component of conduction electrons perpendicular to the electrical field of the light wave. This component is proportional to the nondiagonal part of the tensor of light admittance, which determines the variance of the Kerr and Faraday effects. A pair of kinetic equations of the scattering of conduction electrons by impurities is derived and subsequently their solutions ar simplified. The effect of spin-orbital interaction on conduction e.ectrons is thus found to differ in two cases: in one case, where the diagonal part of the density matrix alone suffices to find the mean velocity of conduction electrons, spin-orbital interaction can be described by introducing some effective homogeneous permanent magnetic field. In the other case, the calculation of mean velocity must take into account the nondiagonal part of the density matrix, and spin-orbital interaction

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ACCESSION NR: AP5013807

cannot be described by introducing some effective magnetic field. This leads to a qualitative change in the frequency dependence of the Hall mean-velocity component of conduction electrons. The corresponding change in the variance of the Kerr and Faraday magneto-optical effects can be calculated from three formulas provided by the author and is experimentally observable from the nature of this variance in the infrared portion of the spectrum. To this end, it appears expedient to compare the variance of magneto-optical effects for certain alloys of nickel and alloys of iron with vanadium (small concentration of vanadium). Since the dependence of the anomalous Hall effect constant on the electrical resistance due to the presence of impurities in ferromagnetic metals is nearly linear for a number of nickel alloys and nearly quadratic for iron-vanadium alloys, the frequency dependence of the nondiagonal components of the tensor of light admittance should be correspondingly calculated from different formulas. The variance of the Kerr and Faraday effects should correspondingly differ. Experimental studies of this kind would greatly assist in further elucidation of the nature of the anomalous Hall effect as well as of the Kerr and Faraday effects.

"In conclusion, I wish to express my sincere gratitude to Ye. A. Turov and M.M. Noskov for their valuable comments made while discussing this

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L 56078-65

ACCESSION NR: AP5013807

project." Orig. art. has: 41 formulas.

ASSOCIATION: Institut fiziki metallov AN SSSR (Institute of Physics of Metals, AN SSSR)

SUBMITTED: 22Jul64 ENCL: 00 SUB CODE: EM, MM

NO REF SOV: 006 OTHER: 003

Card 4/4

S/0126/64/017/004/0481/0489

ACCESSION NR: AP4034045

AUTHORS: Voloshinskiy, A. N.; Bolotin, G. A.

TITLE: Microscopic theory of magnetooptic effects in ferromagnetics

SOURCE: Fizika metallov i metallovedeniye, v. 17, no. 4, 1964, 481-489

TOPIC TAGS: magnetooptic effect, magnetooptical parameter, ferromagnetic material, spin orbit coupling, frequency dependence, temperature dependence

ABSTRACT: The light conductivity in ferromagnetics is computed using the density matrix method, considering the spin-orbit interaction effect on the electronphonon scattering mechanism. The magnetooptical effects can be described by the so-called first magnetooptical parameter given by $Q = -i\sigma_2(\omega)/\sigma_1(\omega)$,

where the complex conductivities

$$\sigma_1(\omega) = \sum_n \frac{\Omega_n^2}{4\pi} \frac{1}{\gamma_n + i\omega},$$

$$\sigma_2(\omega) = \sum_n \frac{2e^2\hbar^2 Z_n k_{Fn}^3}{3\pi^2 m^2 c^2 \bar{\Delta}_n^2} \cdot \frac{A_n \gamma_n + 2i\omega}{\gamma_n + i\omega} \cdot \frac{M}{M_s}.$$

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ACCESSION NR: AP4034045

Here Ω_n and Υ_n are the plasma and relaxation frequencies of the n-th band, hk_{F_n} is the limiting quasimomentum in the n-th band, and $\overline{\Delta_n^2}$ is the average over the n'-th band of $(h\omega_{n'n})^2$. The constant $A_n = 0.5(3 - \overline{B_n})$, where $\overline{B_n}$ is the average over the n'-th band of the ratio of the Bloch constants $C_{n'}/C_n$. M_s, is the saturation magnetization. Since the real and imaginary parts of Q have the opposite signs, the spin-orbit interaction can not be reduced to some effective field. It is shown that for frequencies on the order of or less than the relaxation frequency the correct order of magnitude is obtained for not only the magnetooptical parameter but also its frequency and temperature dependence. The authors thank A. V. Sokolov and Yu. P. Irkhin for valuable comments and careful attention to the work. Orig. art. has: 48 equations.

ASSOCIATION: Institut fiziki metallov AN SSSR (Institute of Physics of Metals, AN SSSR)

SUBMITTED: 29Aug63 DATE ACQ: 20May64 ENCL: 00

SUB CODE: GP NO REF SOV: 009 OTHER: 005

Card 2/2

L 40308-65 EWT(1)/EPA(s)-2/EWT(m)/EWA(d)/T/EWP(t)/EPA(bb)-2/EWP(z)/EWP(b)/EWA(c)
ACCESSION NR AP4048764 S/0126/64/018/004/0492/0501

Pt-10 IJP(c) JD/GG

AUTHOR: Voloshinskiy, A. N.

TITLE: Theory of the anomalous Hall effect in ferromagnetic metals at low temperatures

SOURCE: Fizika metallov i metallovedeniye, v. 18, no. 4, 1964, 492-501

TOPIC TAGS: anomalous Hall effect, ferromagnetic metal, ferromagnetic material, low temperature effect, electric conductivity, spin orbital interaction, Hall effect

ABSTRACT: The authors investigated the effect of the spin-orbital interaction on the scattering of the conductivity electrons by the spin waves at low temperatures (of the order of one-tenth of Curie temperature). The constant of the anomalous Hall effect computed on the basis of this mechanism is proportional to the second power of temperature. The magnetic part of the electrical resistivity follows the same law. This proportionality is valid in a wide temperature range.

Orig. art. has: 1 figure, 21 equations.

Card 1/2

L 40308-65

ACCESSION NR: AP4048764

2

ASSOCIATION: Institut fiziki metallov AN SSSR (Institute of the Physics of Metals AN SSSR)

18

SUBMITTED: 17Apr64 ENCL: 00 SUB CODE: MM, EM

NR REF SOV: 014 OTHER: 006

Card 2/2

RABAN, V.; VOLOSHINSKIY, V.; ZHILA, A.; ZHADANOVSKIY, D. (Volynskaya oblast')

For large-scale activity in inventing and efficiency promotion. Fiz. v shkole 20 no.6:104 N-D '60. (MIRA 14:2)
(Technological innovations)

VOL'SKIY, V.; GRIDCHIN, I.; YEMEL'YANOV, A.; RABAN, V.(Lutsk); VOLOSHINSKIY, V. (Lutsk)

Exchange of news and experience. Izobr. i rats. no.7:18-19 Jl '62. (MIRA 16:3)

1. Sotrudnik zhurnala "Nauka i tekhnika", Riga (for Vol'skiy). 2. Otvetstvennyy sekretar' gazety "Put' Oktyabrya", Lugansk (for Gridchin). 3. Predsedatel' soveta Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov Orenburgskogo shelkokombinata (for Yemel'yanov). (Technological innovations)

VOLOSHKEVICH, G. Z.

25754

Avtomaticheskaya svarka vertikalnykh shvov. Trudy po avtomat, svarke pod flyusom (in-telektrosvarki im. Patrona) sb. 6, 1949, s. 81-90.

SO: Letopis' No. 34

VOLOSHKEVICH, G. Z.

USSR/Engineering - Welding, Methods 1951

"Method of Forced Formation of Welds and Its Application," G. Z. Voloshkevich, Cand Tech Sci, Inst Elec Welding imeni Ye. O. Paton

"Avtomat Svarka" No 1 (16), pp 3-19

Describes procedure of forced weld formation and method, based on this procedure, for automatic welding of vertical joints. Gives brief information on regulating level of welding bath and data on mech properties of welds. Welding by this method is more efficient than welding in flat position for thickness over

202T47

USSR/Engineering - Welding, Methods (Contd) 1951

30 mm and is recommended not only for immovable objects but for all cases of welding large thicknesses of metal.

202T47

VOLOSHKEVICH, G. Z.

USSR/Engineering - Welding, Methods 1951

"Automatic Welding of the Shell of a Blast Furnace," G. Z. Voloshkevich, Cand Tech Sci, Inst Elec Welding imeni Ye. O. Paton

"Avtomat Svarka" No 1 (16), pp 37-51

Technology of mounting and welding blast furnace shell was developed in 1949 by Inst of Elec Welding and applied for construction of blast furnace 1,050 cu m in vol. Each circular section of shell was assembled and welded separately, resulting in better coincidence of horizontal edges, when sections are mounted on each other.

202T50

VOLOSHKEVICH, G.Z.

Electric slag welding. Avtom.svar. 6 no.6:3-10 N-D '53.
(MLRA 8:4)

1. Institut elektrosvarki im. Ye.O.Patona Akademii nauk URSR.
(Electric welding)

VOLOSHKEVICH, G.Z.

USSR/Engineering - Welding

Card 1/1 Pub. 11 - 3/11

Authors : Voloshkevich, G. Z.

Title : Electric slag welding in heavy machine construction

Periodical : Avtom. svar. 3, 26-38, May-June 1955

Abstract : A description of engineering methods for welding thick metal plates is given, together with technical data on the quality of welded joints. Some problems are considered concerning the construction of large units with the aid of electric slag welding, and the overall economy in production of weld-cast and weld-forged constructions. Three USSR references (1951-1953). Drawings; tables; diagrams.

Institution : Acad. of Sc., Ukr. SSR, YE. O. Paton's Institute of Electric Welding

Submitted : March 14, 1955

VOLOSHKEVICH, G.Z.; YEREGIN, L.P.; PILIPENKO, A.A.

"Submerged" process used in the welding of hydraulic turbine shafts. Avtom. svar. 9 no.4:88-95 Jl-Ag '56. (MLRA 10:2)

1. Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki imeni Ye.O. Patona Akademii nauk USSR (for Voloshkevich) 2. Ordena Lenina Novo-Kramatorskiy metallurgicheskiy zavod imeni Stalina (for Yeregin and Pilipenko).
(Shafts and shafting--Welding)

AUTHOR: Voloshkevich, G. Z., Sushchuk-Slyusarenko, I. I.; Lychko, I. I.

TITLE: Electroslag welding with a partially consumable electrode tip

SOURCE: Avtomaticheskaya svarka, no. 11, 1964, 82-85

TOPIC TAGS: electroslag welding, welding electrode, electroslag melting

ABSTRACT: In present electroslag welding processes seams are welded with quantities of weld metal exceeding 1000 kg and welding times extending to 30 to 40 hours. The Institute of Electric Welding has developed a coiled wire electrode tip the end of which is allowed to melt into the weld metal (G. Z. Voloshkevich, "Electrode for Electroslag Welding", description of invention, author's certificate No 1311847; Byulleten' izobreteniy /Bulletin of Inventions/, No 18, 1960).

Instead of using adjustment devices, the proper feeding of the electrode wire is governed by the fact that the electrode tip almost reaches the slag bath, but as a rule does not touch it. When the end of the tip becomes excessively eroded, the level of the slag is raised slightly and the worn end is melted off. Continuous operating time of the tip depends on the length

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of the melting part (lifetime can be increased considerably as compared to that of constant-contact control tips).

The new method differs from welding with a consumable tip in that the partically melting tip is simple to make and needs no expensive or scarce materials. After several welds the electrode tip is restored by manually welding new replaceable end section, is much simpler than maintenance of a control tip and costs much less than control or completely consumable tips.

For comparatively short partially melting tips, melting can be accomplished by raising the level of the slag bath with respect to the slide bar. When a long section is to be melted off, a device is required to raise the slide bar with respect to the feeder mechanism carriage and the tips.

During melting of electrode wire the current-carrying plate of the bottom tip is allowed to overhang the slide bar, since excessive departure of the electrode wire from the slide can result in local incomplete melting of the parent metal edges. The electrode wire can be kept close to the bar by raising the meniscus on the surface of the slag. If the plate is toward the inside of the welding space the level of the slag bath surface can be below the top of the slide, but the end of the tip is eroded much more rapidly and requires more frequent replacement. A strip of metal 4 to 5 mm wide is welded on the other side of the tip to strengthen it. The area of this reinforcement is governed by the current heating conditions and should

L 33543-65
ACCESSION NR: AP5009174

be 180 to 200 mm^2.

The fusible length of the tip is calculated to be 15 to 20 mm per meter of weldment. When welding with the partially melting tip there is a sharp increase in the quantity of molten filler metal when the tips are being melted. Electroslag welding with a consumable tip is considered in this paper only from the standpoint of the quantity and the rate of feed of the electrode wire. During rare instances when the tip is being melted (once per 0.8 to 1 meter of seam), the welding rate should be very slow to avoid hot cracks. However, a more detailed examination of hot crack formation indicates that a brief increase in power is less injurious than slow welding. When the power is suddenly increased, the depth of the molten weld metal does not change instantaneously, and therefore the excess power goes to broadening the heated zone, which then narrows to the steady-state value. Experiments confirmed this assumption. Orig. art. has 3 figures.

ASSOCIATION: Institut elektrosvarki im. ye. O. Patona AN UkrSSR (Institute of Electric Welding, AN UkrSSR); Uralmas im. S. Ordzhonikidze

SUBMITTED: 20Mar64 ENCL: SUB CODE: IE, MM

NR REF SOV: OTHER: XXX JPRS

Card 3/3

AUTHOR: Voloshkevich, G.Z. SOV 125-58-3-2/15

TITLE: Technology of Electric Slag Welding (O rezhimakh elektro-shlakovoy svarki)

PERIODICAL: Avtomaticheskaya svarka, 1958, Nr 3, pp 12-17 (USSR)

ABSTRACT: The interrelations of technology elements in electric-slag welding process are analyzed and illustrated by a schematic drawing and a diagram. The author suggests that the technology-elements be devided into independent and secondary elements and the current and voltage determined by the joint calculation of external characteristics of the power source and the volt-ampere characteristic of the welding bath, which does not depend on the power source. Formulae are given to calculate the actual speed of welding and feed. There is 1 chart, 1 graph and 1 Soviet reference.

Card 1/2

Technology of Electric Slag Welding SOV 125-58-3-2/15

ASSOCIATION: Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki imeni Ye.O. Patona AN USSR (Institute of Electrowelding imeni Ye.O. Paton, AS UkrSSR, Bearer of the Labor Order of the Red Banner)

SUBMITTED: September 28, 1957

1. Arc welding--Analysis 2. Arc welding--Electrical factors
3. Mathematics

Card 2/2

AUTHOR: Voloshkevich, G.Z. SOV-125-58-9-11/14

TITLE: Technology of Electric-Slag Welding Process and Its Effect on the Seam Width (Rezhim elektroshlakovoy svarki i yego vliyaniye na shirinu shva)

PERIODICAL: Avtomaticheskaya svarka, 1958, Nr 9, pp 74-87 (USSR)

ABSTRACT: Information is presented on the interdependence of technological factors and their effect on the seam shape in electric slag welding processes. The following conclusions are made: the width of the weld joint depends on the voltage, the gap width, the slag bath depth, the "dry range" (the distance between the nozzle and the slag bath surface); the fusion speed and the electrode oscillation rates. The current depends on the fusion speed and the "dry range".
There are 7 graphs, 1 diagram, 2 microphotos and 3 Soviet references.

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SOV-125-58-9-11/14

Technology of Electric-Slag Welding Process and Its Effect on the Seam Width

ASSOCIATION: Institut elektrosvarki imeni Ye.O. Patona AN USSR (Institute of Electric Welding imeni Ye.O. Paton, AS UkrSSR)

SUBMITTED: December 24, 1957

1. Arc welding--Electrodes 2. Slags--Applications

Card 2/2

AUTHOR: Voloshkevich, G.Z. SOV-125-58-10-2/12

TITLE: Electrode Fusing and Metal Passage in the Electric-Slag Welding Process (Plavleniye elektroda i perenos metalla pri elektroshlakovoy svarke)

PERIODICAL: Avtomaticheskaya svarka, 1958, Nr 10, pp 14 - 21 (USSR)

ABSTRACT: Information is presented on the fusing of electrodes in welding steel plates, and on the dependence of the frequency of the electrode drop passage on the welding parameters. The formation and passage of electrode drops is analyzed, and the following conclusions are made: 1) electrode fusing takes place at the electrode tip and side. The electrode tip has a pointed shape and the fusing rate increases with the approach to the tip; 2) the electrode is bent to the side opposite to the current feed; 3) flows in the slag, circulating in an opposite direction to heat convective flows, also exist if there is no passage of drops; 4) frequency of the drop passage from the electrode metal increases with higher feed rates. If the

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Electrode Fusing and Metal Passage in the Electric-Slag Welding Process

feed rate exceeds 150 m/hour, the increase of frequency is slowed down; 5) the dependence of the drop weight from the feed rate reaches its maximum in slow feed and its minimum in faster feed. There are 5 photos, 2 graphs, 2 diagrams and 3 Soviet references.

ASSOCIATION: Institut elektrosvarki imeni Ye.O. Patona AN USSR (Institute of Electric Welding, imeni Ye.O. Paton, AS UkrSSR)

SUBMITTED: December 28, 1957

1.Arc welding--Analysis 2. Arc welding--Electrodes 3. Electrodes --Performance

VOLOSHKEVICH, G.Z.

Electric slag welding conditions and their effect on the seam width. Avtom.svar. 11 no.9:74-87 S '58. (MIRA 11:11)

1. Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki imeni Ye.O. Patona AN USSR.
(Electric welding--Testing)

PATON, B.Ye., akademik, doktor tekhn.nauk, laureat Leninskoy premii; VOLOSHKEVICH, G.Z., kand.tekhn.nauk, laureat Leninskoy premii; OSTROVSKAYA, S.A., kand.tekhn.nauk; DUDKO, D.A., kand.tekhn.nauk; POKHODNYA, I.K., kand.tekhn.nauk; STERENBOGEN, Yu.A., kand.tekhn. nauk; RUBLEVSKIY, I.N., inzh.; ZHEMCHUZHNIKOV, G.V., kand.tekhn. nauk; ROZENBERG, O.O., inzh.; SEVBO, P.I., kand.tekhn.nauk; NOVIKOV, I.V., inzh.; MEDOVAR, B.I., kand.tekhn.nauk; DIDKOVSKIY, V.P., inzh.; RABKIN, D.M., kand.tekhn.nauk; TYAGUN-BELOUS, G.S., inzh.; ZARUBA, I.I., kand.tekhn.nauk, retsenzent; GREBEL'NIK, P.G., kand.tekhn.nauk, red.; TYNYANYY, G.D., red.

[Electric slag welding] Elektroshlakovaia svarka. Izd.2., ispr. i dop. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 409 p. (MIRA 13:4)

1. AN USSR (for Paton).
(Electric welding)

SOV/125-59-3-1/13

25(5)
AUTHOR: Voloshkevich, G.Z., Dudko, D.A., Chernykh, W.W., and Yeregin, L.P.

TITLE: New Method for Electro-Welding with Covered Electrode by Melting Work Pieces (Novyy sposob elektroshlakovoy svarki plavyashchimsya mundshtukom)

PERIODICAL: Avtomaticheskaya svarka, 1959, Vol 12, Nr 3, pp 3-7 (USSR)

ABSTRACT: By this new method it is possible to weld intricate profiles of practically any thickness. It is characterized by thin pieces of tubing (Fig. 1a), conducting the leads for the supply of electricity, which are welded to melting work pieces (Fig. 1a) of steel Ms-1. Insulation between the two pieces to be welded is provided by glass in prismatic shape. (Fig. 1 and 4). When the welding process is in progress, this gives rise to a pool of slag and a pool of metal (Fig. 1,5 and 6). Fig. 2,3 and 5 give instances of parts of a water turbine to be welded. Fig. 4 shows the welding of a difficult defect. The manufacture of a large ram (Fig. 6 and 7) by this

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New Method for Electro-Welding with Covered Electrode by Melting Work Pieces

welding process is mentioned as a particular feat. With a dimension of 5120 x 2020 mm of the surfaces to be joined by welding, the process was finished within 14 hours by using 12 melted work pieces. There are 5 diagrams and 2 photographs.

ASSOCIATION: Ordena trudovogo krasnogo znameni institut elektrosvarki im. Ye. O. Patona AN USSR (Order of the Red Banner of Labor Institute for Electro-Welding imeni Ye. O. Paton, AS UkrSSR) Novo-kramatorskiy mashinostroitel'nyy zavod (Novo-Kramatorskiy Factory for Machine Construction)

SUBMITTED: January 17, 1959

Card 2/2

18(5),25(5)
AUTHOR: Voloshkevich, G.Z., and Khrundzhe, V.M.

TITLE: Electric Welding with Covered Electrode by a Melting Work Piece (Elektroshlakovaya svarka plavyashchimsya mundshtukom)

PERIODICAL: Avtomaticheskaya svarka, 1959, Vol 12, Nr 3, pp 33-34 (USSR)

ABSTRACT: A description of the method of welding with melting work pieces, of the construction of the melting work piece, of the necessary equipment as well as of the technique of the welding process is given. The melting work piece can be fixed between the two pieces to be welded in a movable as well as in an immovable way. This method is to be recommended for welding pieces of a width of more than 500 mm and a length of more than 1000 mm, for welding of intricate profiles and joints that are inaccessible. The selection of the work pieces depends on the material of the pieces to be welded. The diameter of the work piece should not be more than 10-50% of the welding seam. The

Electric Welding with Covered Electrode by a Melting Work Piece

construction of the melting work piece is described in Fig. 1. The melting work piece consists of a sheet of approximately 4-5 mm thickness, upon which a thin sheet is welded by spot welding in which the covered electrode is led. According to the author, construction (1v) is the best of possibilities (1a), (1b), (1v) and (1g). It can be taken from Fig. 1 that the melting work piece can have any shape. Fig. 2 shows an example for the mounting of immovable melting work pieces. The material of the insulators should be of the kind that melts under processing and will be taken up by the pool of slag. The best material is glass wool, the worst asbestos. In Fig. 3 an apparatus is shown, by which the electrodes can be led continuously. Speed can be calculated by an equation (1) which is demonstrated in figure 6. Fig. 5 shows an apparatus which enables an additional correction of the leading of the electrodes. The latter one, however, is only applicable in a limited way. (Maximum width of the melting work piece is 200-300 mm). By equation 4, the necessary distance between the electrodes can be calculated.

SOV/125-59-3-4/13

Electric Welding with Covered Electrode by a Melting Work Piece

There are 6 diagrams and 1 Soviet reference.

ASSOCIATION: Ordena trudovogo krasnogo znameni institut elektrosvarki im. Ye. O. Patona AN USSR (Order of the Red Banner of Labor, Institute for Electro-Welding im. Ye. O. Paton, AS UkrSSR)

SUBMITTED: November 22, 1958

Card 3/3

18.7200
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67701

SOV/125-60-2-3/21

AUTHORS: Voloshkevich, G.Z., and Sushchuk-Slyusarenko, I.I.

TITLE: On the Accuracy of the Dimensions of Work Welded by Means of Electro-Slag Welding

PERIODICAL: Avtomaticheskaya svarka, 1960, Nr 2, pp 34-43 (USSR)

ABSTRACT: The article contains detailed information on the methods of accurate compensation for displacements of parts being joined by the electro-slag welding process. The essence of the method is the creation of a constant moment of resistance to the displacement, by the weight of the parts and the use of supports (shown in diagram figure 2). The method is practised for welding the tires of cement kilns on erection sites, and was applied for welding the 400-mm thick and 900-mm high kiln tires of the Vol'skiy tsementnyy zavod (Vol'sk Cement Plant). The pertaining calculations are given and explained by diagrams. After test welding of a full-size specimen,

Card 1/2

On the Accuracy of the Dimensions of Work Welded by Means of Electro-Slag Welding

to determine the necessary resistance moment, the mutual displacement of the tire parts can be controlled with an accuracy of ± 0.2 to 0.3-mm, and the rotary displacement with an accuracy of ± 0.00025-mm. For inflexible work with a weld length of over 0.5 m, the deformation can be calculated by using a table (table 2) and the two given formulas (in this case the accuracy is lower). Accurate compensation for deformation is also possible in the multi-stage welding of butts if non-uniform heating is applied. There are 5 diagrams, 1 graph , and 2 tables.

ASSOCIATION: Ordena Trudovogo Krasnogo Znameni Institut electrosvarki im. Ye.O. Patona AN USSR (Order of the Red Banner of Labor Institute of Electric Welding imeni Ye. O. Paton of the AS UkrSSR).

SUBMITTED: November 20, 1959.

Card 2/2

L 07953-67 EWT(m)/EWP(v)/EWP(t)/ETI/EWP(k) JD/HM

ACC NR: AP6032494 SOURCE CODE: UR/0413/66/000/017/0047/0048

23
B

INVENTOR: Voloshkevich, G. Z.; Lychko, I. I.

ORG: none

TITLE: Method of electroslag surfacing of nonferrous metals on ferrous metals. Class 21, No. 185420

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 17, 1966, 47-48

TOPIC TAGS: nonferrous metal, ferrous metal, electroslat surface

ABSTRACT: An Author Certificate has been issued for a method of electroslag surfacing of nonferrous metals on ferrous metals. To prevent iron diffusion in the surfacing metal, the temperature of the slag bath is reduced to below the melting point of the ferrous metal. For keeping the slag bath at a constant temperature, a resistor is introduced into the welding circuit, the value of which is selected in such a manner that the partial derivative of the power produced with respect to temperature will be positive, but will not exceed the partial derivative of power efficiency with respect to temperature. [Translation]

Card 1/1 SUB CODE: 11/ SUBM DATE: 09Apr62/ UDC: 621.791.793:621.92

L 60135-65 EWT(m)/EWP(v)/T/EWP(t)/EWP(k)/EWP(b)/EWA(c) Pf-4 JD/HW/GS

ACCESSION NR: AT5017706 UR/0000/65/000/000/0114/0130

AUTHOR: Voloshkevich, G. Z.

TITLE: Construction of products with joints made by electric slag welding

SOURCE: AN UkrSSR. Institut elektrosvarki. Proyektirovaniye svarnykh konstruktsii (Design of welded structures). Kiev, Naukova dumka, 1965, 114-130

TOPIC TAGS: welded structure, welding design, welding equipment, welding technique, welding technology, welding heat treatment, butt welding

ABSTRACT: A detailed review is given of the technique of electric slag welding. The fabrication of products by this method, with a single welded unit processed from different combinations of cast, rolled, forged, and stamped members, gives good quality at a reduced cost. Butt welded joints are the simplest to produce and, with the proper guides, can join plates of various thickness. Angle welds can be made either in the simple "butt-like" form or in the more complicated but stronger joints in which both members are cut to give a symmetrical weld. In T-joints the melted section may extend totally or partially through the metal, or the butting member may be welded to a lug on the main member. In its alignment a weld may be straight and laid at 30° from the vertical, circular (at present used only in conjunction with

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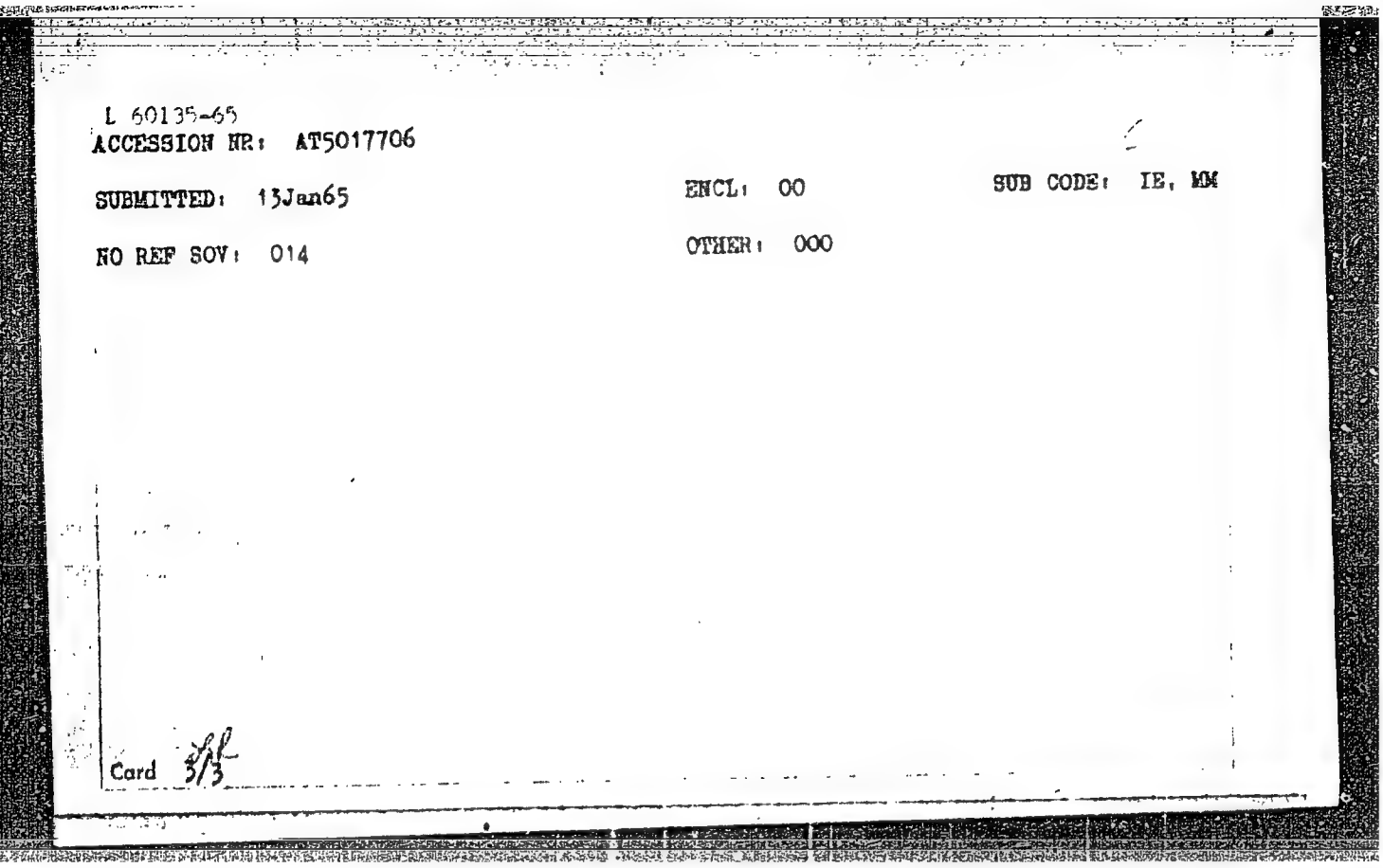
butt welds), and of a complex shape, which requires matching of the uneven surfaces or forming a fused section and working at 40° from the vertical. If the surfaces involved in the welding are not flat, the use of a lug or a fused piece is required. Much attention must be given to preventing stresses and deformations in the welded structures, which may cause deviations of the product's shape and size from the design specifications, possibility of structural breakdowns during or shortly after the welding, and a poor performance by the product over a long period. With the latest techniques, a precision of class 3-4 may be attained. Defects can best be handled by preventative action or by introducing compensations during fabrication. Dislocations in the welded members are determined chiefly by the dimension and shape of the members, by the fastening of parts prior to welding, and by the welding operation. Dislocations encountered with the use of rigid and flexible fastenings and with no fastening were investigated. The location of the welded seam and the sequence of welding operations were found to have a considerable bearing on the quality of the product. The use of a holding die produced higher quality structures. The article is concluded with a discussion of the processing techniques, spacing between members, and location of joints. Orig. art. has: 12 figures, 2 tables, and 1 formula.

ASSOCIATION: Institut elektrosvarki im. Ye. O. Patona, AN UkrSSR (Electric Welding Institute, AN UkrSSR)



L 60135-65
ACCESSION NR: AT5017706

SUBMITTED: 13Jan65 ENCL: 00 SUB CODE: IE, MM

NO REF SOV: 014 OTHER: 000

Card 3/3

VOLOSHKEVICH, G.Z., doktor tekhn. nauk; SUSHCHUK- SLY. SARENKO, I.I., inzh; LYCHKO, I.I., inzh.; POSTOVALOV, Yu.I., inzh.

Electric slag welding with a self-melting tip. Avtom. svar. 17 no.11:82-85 N '64 (MIRA 18:1)

1. Institut elektrosvarki imeni Ye.O. P·tona AN UkrSSR (for Voloshkevich, Sushchuk- Slyusarenko, Lychko). 2. Ural'skiy zavod tyazhelogo mashinostroyeniya imeni Sergo Ordzhonikidze (for Postovalov).

MEDOVAR', B.I.; PUZRIN, L.G.; LUTSYUK-KHUDIN, V.A.; PAVLIYCHUK, G.A.; VOLOSHKEVICH, G.Z.

New phenomenon of plastic welding in the weld zone. Dokl. AN SSSR 148 no.5:1064 F '63. (MIRA 16:3)

1. Institut elektrosvarki im. Ye.O.Patona AN UkrSSR. Predstavleno akademikom B.Ye.Patonom.

(Welding)

VOLOSHKEVICH, G.Z.

Stabilization of the electric slag process. Avtom.svar. 15 no.4:1-5 Ap '62. (MIRA 15:3)

1. Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki imeni Ye.O.Patona AN USSR.

(Electric welding)

VOLOSHKEVICH, G. Z.

PHASE I BOOK EXPLOITATION SOV/5975

International Institute of Welding

XII kongress Mezhdunarodnogo instituta svarki, 29 iyunya - 5 iyulya 1959 v g. Opatii (Twelfth Annual Assembly of the International Institute of Welding, Opatija, June 29 - July 5, 1959) Moscow, Mashgiz, 1961. 359 p. 3000 copies printed.

Sponsoring Agency: Natsional'nyy komitet SSSR po svarke.

Ed. (Title page): G. A. Maslov, Docent; Translated from English, French, and Serbo-Croatian by N. S. Aborenkova, K. N. Belyayev, E. P. Bogacheva, L. A. Borisova, K. V. Zvegintseva, V. S. Minavichev, and M. M. Shelechnik; Managing Ed. for Literature on the Hot-Working of Metals: S. Ya. Golovin, Engineer.

PURPOSE: This collection of articles is intended for welding specialists and the technical personnel of various production and repair shops.

Card 1/

Twelfth Annual Assembly (Cont.)

COVERAGE: The collection contains abridged reports presented and discussed at the Twelfth Annual Assembly of the International Institute of Welding. Reports deal with problems of welding and related processes used in repair work, repair techniques, and the problems arising in connection with the nature of the base and filler materials. Examples of repairing various parts are given, and the organization of repair operations in workshops and under field conditions is discussed. Economic aspects of welding and related processes as used in repair work are analyzed. No personalities are mentioned. There are no references.

TABLE OF CONTENTS: [Only Soviet and Soviet-bloc reports are given here]

VOLOSHKEVICH, G.Z.; SUSHCHUK-SLYUSARENKO, I.I.; KHRUNDZHE, V.M.

Electric slag welding of rotors for radial-axial flow hydraulic turbines. Avtom. svar. 15 no.1:46-58 Ja '62. (MIRA 14:12)

1. Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki imeni Ye.O. Patona AN USSR.
(Hydraulic turbines—Welding)
(Rotors—Welding)

37664
S/125/62/000/004/001/013
D040/D113

12300

AUTHOR: Voloshkevich, G.Z.

TITLE: Stabilizing the electroslag process

PERIODICAL: Avtomaticheskaya svarka, no. 4, 1962, 1-5

TEXT: Possible means of stabilizing the slag bath temperature and preventing harmful overheating are discussed, and the heat balance in the bath is calculated with reference to the author's previous work ("Avtomaticheskaya svarka", no. 6, 1953), in which he proved that the curves of heat liberated in and released from the bath have two intersection points, the one with the higher temperature corresponding to a stable process. Processes with constant or varying shapes of interelectrode space, different current source properties, electrode dimensions and feed rate are analyzed. Conclusions: (1) If the interelectrode space shape is constant and the current source is of the constant potential type, the electroslag process can be

Card 1/2

Stabilizing the electroslag process

conducted only at a high slag bath temperature close to boiling point; (2) the process can be conducted at low temperature when the electrode feed rate is high and the electrode cross section area small, when the current source has a moderately drooping characteristic, or when the electrode feed or electric power supply are automatically controlled. There is 1 figure.

ASSOCIATION: Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye.O.Patona AN USSR (Electric Welding Institute "Order of the Red Banner of Labor" im. Ye.O.Paton, AS UkrSSR)

SUBMITTED: July 1, 1961

VOLOSHKEVICH, G.Z.

Temperature field of an object in electric slag welding. Avtom. svar. 14 no.7:40-45 Jl '61. (MIRA 14:7)

1. Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye.O.Patona AN USSR.
(Electric welding)

32959
S/125/62/000/001/006/011
D036/D113

1.2300 1573

AUTHORS: Voloshkevich, G.Z.; Sushchuk-Slyusarenko, I.I.; Khrundzhe, V.M.

TITLE: Electroslag welding of the runners of radial-axial hydraulic turbines.

PERIODICAL: Avtomaticheskaya svarka, no. 1, 1962, 46-58

TEXT: The authors describe a technology which they developed for manufacturing a 120 ton runner for a 225,000 kw turbine for the Bratskaya GES (Bratsk Hydroelectric Power Plant) by joining the separately-cast blades to the upper and lower crowns by electroslag welding with a consumable electrode-holder. The runner could not be cast in its entirety because its shape was too complex to permit obtaining a high-quality casting of the required precision. The Water Turbine Office of the Leningradskiy metallicheskiy zavod (Leningrad Metalworking Plant) had originally suggested using electroslag welding for joining the blades to the upper crown, and manual welding for joining the blades to the lower crown. The blades were held in position while being welded to the upper crown by normal П -shaped clamps joined to the blade by heavy welds; a proportioned counteracting moment was applied to the blade edges during welding by pre-tensioned spring clamps (Fig.2). The

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Electroslag welding ...

general arrangement of the blade and upper crown is shown in Fig. 4, in which (1) are the spring clamps welded on to given points on the blade, (2) are the normal П -shaped clamps for holding the lower end of the blade, (3) are glass fiber inserts for insulating the consumable electrode-holder and (4) is a clamp which is welded on to the blade and which thrusts against a boss on the crown. The latter clamp prevents the blade edges being displaced in the upper part of the butt. The position of the outlet edge of the blade was taken as a base for the assembly. The welding conditions for welding the blades to the upper crown were as follows: welding voltage 43-46 v; feed of welding wire 160 m/hr; number of wires - 2; depth of slag pool 45-50 mm. The welding was carried out with an А -545 (A-545) welder, АН-8 (AN-8) flux, Св-10Г2 (Sv-10G2) welding wire and an 8 mm thick consumable electrode-holder made of Ст.3 (St.3) steel. One butt took 2 machine-hours, the total time required to assemble and weld one butt being 3.5 hrs. Before welding on the blades to the lower crown, the edges of the blades were trimmed by a special Р -930 (R-930) device, in which the cutting torch could move along its axis along guides parallel to the generatrix of the internal conical surface of the crown and at the same time turn about the runner axis. When

Card 2/4

Electroslag welding ...

assembling the lower crown and blades, the lower crown was clamped by three struts of refractory steel (Fig.1) in order to preclude geometrical distortion caused by welding stresses and subsequent heat treatment of the two halves of the crown. For welding the blades to the lower crown, a manipulator held the runner at an angle of 45° to the horizon. The welding conditions were as follows: welding voltage - 44-47 v; feed of welding wire - 177 m/hr; number of wires - 2; brand of welding wire - Св-10Г2 (Sv-10G2). depth of slag pool - 45-50 mm. An Ст.3 (St.3) consumable electrode-holder 8 mm thick was used. The welding took two machine-hours and the total time required for the assembly and welding of one butt was 3.5 hrs. An accuracy of 1 mm was achieved in the radius of the inner surface of the crown after welding. The conclusions are as follows: (1) A flexible attachment by spring clamps may be used in addition to a counteracting moment for obtaining accuracy of the measurements after welding, in addition to a counteracting moment; (2) The precision of the dimensions of a welded-cast runner is determined by the precision of the blade blanks. A considerable number of errors in the blade dimensions can be compensated for during the assembly; (3) Use of a flexible attachment for manufacturing the first welded-cast turbine runner for the Bratsk Hydroelectric Power Plant allowed

Card 3/4

Electroslag welding ...

the accuracy of manufacturing the runner to be increased several times in comparison with a solid-cast runner; (4) A special gas-cutting apparatus should be used for trimming the blade edges connected with the lower crown; (5) Welding the lower crown to the blades should be carried out by the electroslag method. The costs of making T-joints with a conical axial surface do not exceed those incurred when welding the blades to the upper crown. There are 11 figures, 2 tables and 3 Soviet references.

ASSOCIATION: Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye.O. Patona AN USSR (Electric Welding Institute "Order of the Red Banner of Labor" im.Ye.O. Paton of the AS UkrSSR)

SUBMITTED: January 31, 1961

22948
S/125/61/000/007/004/013
D040/D112

1.2300 also 1573

AUTHOR: Voloshkevich, G.Z.

TITLE: The temperature field in workpieces in electro-slag welding

PERIODICAL: Avtomaticheskaya svarka, no. 7, 1961, 40-45

TEXT: Temperature distribution in the base metal was studied in experiments in view of the complexity of the heat transfer in electro-slag welding and the very difficult calculations involved. The "equivalent heat source" that had been suggested by N.N.Rykalin (Ref.1: Teplovyye osnovy svarki [Fundamentals of welding heat], M.-L., 1947) gives relatively accurate calculation results for spots outside the welding seam, but cannot be used for the zone of heat liberation in the electro-slag process. The experimental techniques consisted in using symmetrical composite specimens (Fig.1), i.e. four identical plates, and 40 thermocouples in different spots. The thermocouples were nichrome - steel, single-wire type - with the second metal (steel) one being the same as the metal under investigation; 0.6 mm diameter nichrome wire was attached to the metal by electrostatic percussive welding. The thermocouple junctions were graduated in a furnace with a platinum-platinorhodium thermocouple. Indications of all 40 thermocouples were

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The temperature field ....

recorded simultaneously in 0.5 secs by a single vibrator connected to a mechanical drive through an annular commutator. The determined temperature field is illustrated in two cross sections (Fig.5) through a 50 mm thick steel plate, at different slag-bath depths and equal welding currents. Such a momentary temperature field can be used as fundamental data for many heat calculations, i.e. temperature gradients at any point of the field, the heat flow distribution in the base metal, changes of temperature with time (temperature cycle) for any point in the field. [Abstracter's note: the values l_c and b_3 in the legend to Fig.5 are not defined]. There are 5 figures and 1 Soviet-bloc reference.

ASSOCIATION: Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye.O.Patona AN USSR (Electric Welding Institute "Order of the Red Banner of Labor" im. Ye.O.Paton AS UkrSSR)

SUBMITTED: January 31, 1961

VOLOSHKEVICH, G.Z.; KHRUNDZHE, V.M.; SUSHCHUK-SLYUSARENKO, I.I.

Reconditioning the stand of a three-ton hammer. Avtom.svar. 13 no.7:76-79 Jl '60. (MIRA 13:7)

1. Orden Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye.O.Patona AN USSR.
(Power presses--Maintenance and repair)
(Electric welding)

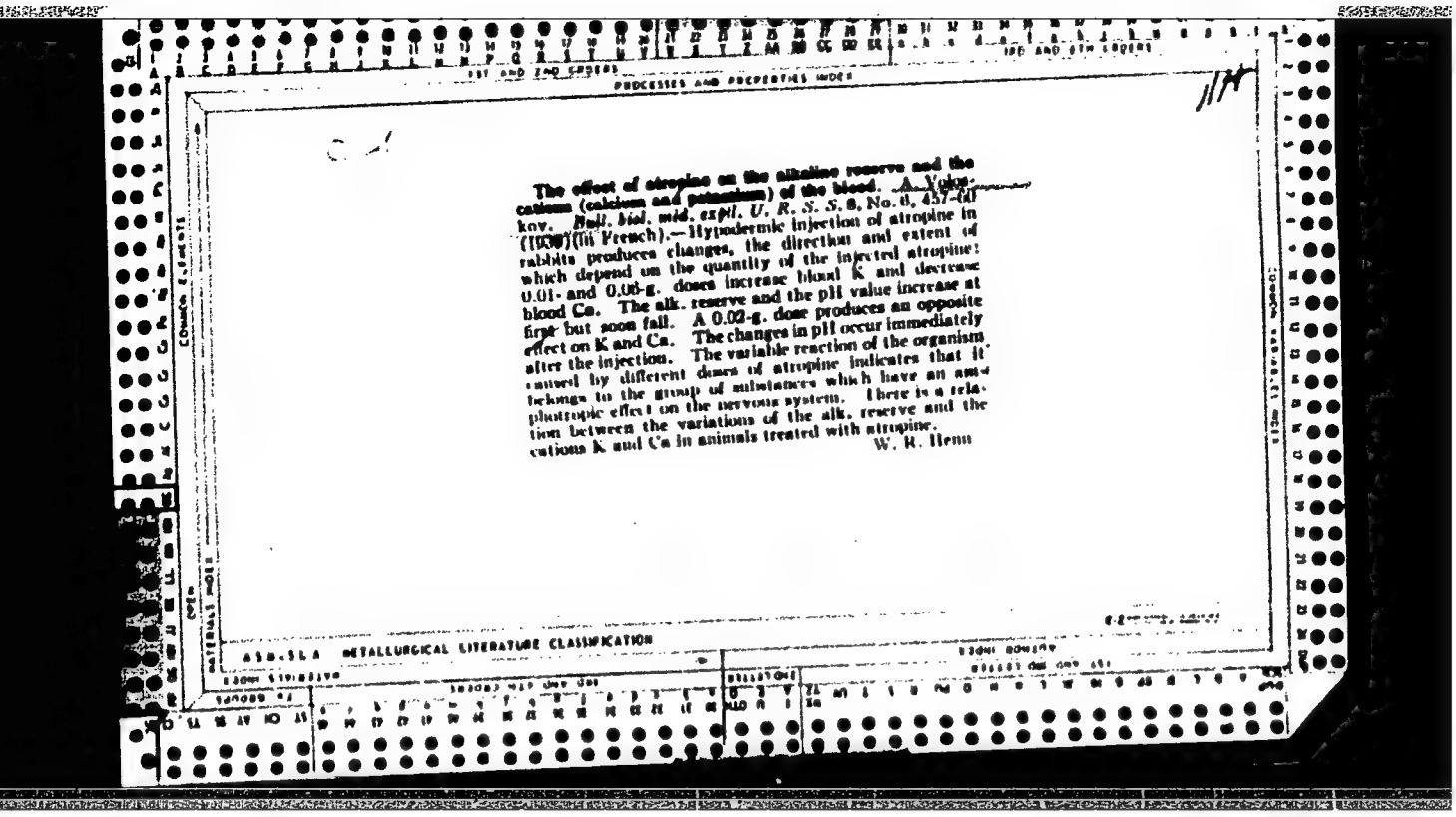
VOL'FSON, L.G.; MEL'NIKOV, N.N.; PLATE, A.F.; PEREL'MUTER, P.M.; VOLODKOVICH, S.D.; PRYANISHNIKOVA, M.A.; LEBEDEVA, K.V.; VOLOSHKEVICH, N.P.

Continuous method for the preparation of aldrin. Khim.prom. no.10:714-717 O '62. (MIRA 15:12)

(Aldrin)

VOLOSHKO, A.P.

One-piece steel prostheses and dental bars. Stomatologiia, no.3: 62-63 My-Je '54. (MLRA 7:6)
(DENTAL PROSTHESIS,
*one piece steel prosthesis with dent. bar)



The effect of atropine on the alkaline reserve and the cations (calcium and potassium) of the blood. A. Yoko-kov. *Bull. biol. méd. exptl. U. R. S. S.* 8, No. 11, 457-61 (1939)(In French).—Hypodermic injection of atropine in rabbits produces changes, the direction and extent of which depend on the quantity of the injected atropine: 0.01- and 0.03-g. doses increase blood K and decrease blood Ca. The alk. reserve and the pH value increase at first but soon fall. A 0.02-g. dose produces an opposite effect on K and Ca. The changes in pH occur immediately after the injection. The variable reaction of the organism caused by different doses of atropine indicates that it belongs to the group of substances which have an ambiphilotropic effect on the nervous system. There is a relation between the variations of the alk. reserve and the cations K and Ca in animals treated with atropine.

W. R. Hess

VOLOSHKO, D.M., inzh.; KALINKINA, Z.M., inzh.; SHCHESNO, L.P., inzh.

Corrosion of pipes in evaporators in sugar refineries. Biul.nauch.-tekh.inform.VNIITI no.4/5:143-153 '58. (MIRA 15:1)
(Pipe, Steel--Corrosion)
(Sugar manufacture--Equipment and supplies)

VOLOSHKO, D.M., inzh.; KALINKINA, Z.M., inzh.

Using electrode potentials as criteria in selecting metals for diffusion-calorizator pipes in sugar refineries. Biul.nauch.-tekh.-inform.VNITI no.4/5:153-157 '58. (MIRA 15:1)
(Sugar manufacture--Equipment and supplies)
(Pipe, Steel--Corrosion)

VOLOSHKO, D.M., inzh.; CHIZH, V.A., inzh.; SHCHESNO, L.P., inzh.

Using radioactive tracers in investigating sulfur diffusion in metals. Biul.nauch.-tekh.inform.VNITI no.4/5:194-198 '58.
(MIRA 15:1)
(Radioactive tracers--Industrial applications)
(Metals--Testing)

TOBILEVICH, N.Yu.; ZASYAD'KO, I.N.; MATEUSH, Ya.O.; VOLOSHKO, D.M.; KALINKINA, Z.M.; SHCHESNO, L.P.

Increasing the corrosion resistence of heat exchanging pipes for the sugar industry. Sakh. prom. 31 no.4:47-53 Ap '57. (MLRA 10:6)

1. TSentral'nyy nauchno-issledovatel'skiy institut sakharnoy promyshlennosti (for Tobilevich, Zasyad'ko and Mateush). 2. VNITI (for Shchesno).

(Pipe) (Corrosion and anticorrosives)

VOLOSHKO, G., general-mayor artillerii

Admonition against violations of discipline. Komm. Vooruzh. Sil 4 no.1:26-31 Ja '64.

(MIRA 17:9)

VOLOSHKO, G.T. [Voloshko, H.T.]

Plunger lubricator for pouring velosite into the spindle bushings of spinning and winding machines. Leh.prom. no. 4:75-76 O-D '63.

SOV/137-58-11-22983

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 11, p 164 (USSR)

AUTHORS: Voloshko, D. M., Chizh, V. A., Shchesno, L. P.

TITLE: Investigation of the Diffusion of Sulfur in Metal With the Aid of Radioactive Tracers (Issledovaniye diffuzii sery v metall s pomoshch'yu radioaktivnykh indikatorov)

PERIODICAL: Byul. nauchno-tekhn. inform. Vses. n.-i. trubnyy in-t, 1958, Nr 4-5, pp 194-198

ABSTRACT: In order to verify the hypothesis that the source of contamination of 20A steel pipes with sulfur lies in the fine $FeSO_4$ crystals remaining on the surface of the pipes after pickling in H_2SO_4, an investigation with tagged atoms was conducted. Fine $FeSO_4$ crystals containing radioactive S were applied onto specimens 1.5x25x50 mm of 20A steel which were dried and subjected to various types of heat treatment: Annealing (920°C, 15 min), normalization (920°, 15 min; 870°, 15 min) and recrystallization (670°, 15 min), after which a layer by layer determination of the radioactivity of the specimens was performed. It is established that the diffusion of S during annealing (920°) occurs to a depth of 0.17 mm and upon recrystallization (670°) to 0.04 mm. T. F.

Card 1/1

LIAKUMOVICH, A.G.; ZAKHAROVA, N.V.; LAPKIN, L.M.; ANDREYEVA, L.N.; RAZUMOVSKAYA, L.V.; UVAROVA, Ye.D.; VOLOSHKO, S.G.

Chromatographic analysis at the Sterlitamak Plant of Synthetic Rubber. Zav.lab. 28 no.5:637 '62. (MIRA 15:6)

1. Sterlitamakskiy zavod sinteticheskogo kauchuka.
(Sterlitamak--Rubber, Synthetic) (Chromatographic analysis)

VOLOSHKO, Yu. (Moskva)

A neglected artel. Prom.koop.no.9:34 S '56. (MLRA 9:10)
(Disabled--Rehabilitation)

VOLOSHKO, Yu.D., kand. tekhn. nauk (Dnepropetrovsk)

Lighten the work of rails in the track. Put' i put. khoz. no.3:23 Mr '59. (MIRA 12:6)
(Railroads--Rails)

FRISHMAN, M.A., doktor tekhn. nauk, prof.; BELYKH, K.D., inzh.; VOLOSHKO, Yu.D., kand. tekhn. nauk; LEVANKOV, I.S.

Investigating special railroads in metallurgical plants operating under heavy loads. Stal' 23 [i.e. 24] no.4:382-383 Ap '64. (MIRA 17:8)

1. Dnepropetrovskiy institut inzhenerov zheleznodorozhnogo transporta.

FRISHMAN, M.A., doktor tekhn. nauk (Dnepropetrovsk); BELYKH K.D., kand. tekhn. nauk (Dnepropetrovsk); VOLOSHKO, Yu.D. kand. tekhn. nauk (Dnepropetrovsk)

Type of rails for industrial tracks. Put' i put. khoz. 9 no.3:9-10 '65. (MIRA 18:6)

VOLOSHKO, Yu.D., dots., kand.tekhn.nauk

Effect of flexure of ties under load on dynamic and residual changes in rail creep. Trudy DIIT no.27:57-64 '58.
(MIRA 12:1)

(Railroads--Ties) (Railroads--Rails)

VOLOSHKO, Yu.D., dots., kand.tekhn.nauk

Variable horizontal lateral forces acting on rails in straight track sections. Trudy DIIT no.27:31-50 '58. (MIRA 12:1)
(Railroads--Rails)

VOLOSHKO, Yu.D., dots., kand.tekhn.nauk

Character of wear on ties under their bases. Trudy DIIT no.27: 51-56 '58. (MIRA 12:1)
(Railroads--Ties)

VOLOSHKO, Yu.D., kand.tekhn.nauk, dotsent

Calculation characteristics of a track with solid large-block reinforced concrete foundation. Trudy DIIT no.30:44-79 '60. (MIRA 14:12)

(Railroads--Track)

VOLOSHKO, Yu.D., kand.tekhn.nauk, dotsent

Determining the weighted average of the working conicity of the rolling stock wheels taking their wear into account. Trudy DIIT no.30:144-151 '60. (MIRA 14:12)
(Car wheels)

Voloshko, Yu. D.

FRISHMAN, M.A., prof., doktor tekhn. nauk; VOLOSHKO, Yu.D., dots., kand. tekhn. nauk (Dnepropetrovsk).

Reinforced concrete ties used on sections having automatic block systems. Put' i put. khoz. no.2:21-22 F '58. (MIRA 11:3)
(Railroads--Ties, Concrete)

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Why rail sloping is necessary and how to maintain it. Put' i put. khoz. no.6:29-31 Je '58. (MIRA 11:6)
(Railroads--Rails)

FRISHMAN, M.A., prof., doktor tekhn.nauk (Dnepropetrovsk); ISAKOV, I.F., kand.tekhn.nauk (Dnepropetrovsk); VOLOSHKO, Yu.D., kand.tekhn.nauk (Dnepropetrovsk)

Characteristics of designing track on reinforced concrete ties. Zhel.dor.transp. 40 no.10:55-57 O '58. (MIRA 11:12)
(Railroads--Track) (Railroads--Ties, Concrete)

VOLOSHKO, Yu.D., kandidat tekhnicheskikh nauk.

Insure lateral strength in rails. Put' i put. khoz. no.7:32-33 Jl '57. (MLRA 10:8)
(Railroads--Rails)

VOLOSHKO, Yu.D., kandidat tekhnicheskikh nauk (Dnepropetrovsk).

Increasing the life of railroad ties. Zhel.dor.transp.38 no.12:55-56 D '56. (MLRA 10:2)
(Railroads--Ties)

VOLOSHKO, Yu.D., kandidat tekhnicheskikh nauk.

Efficient rail slope. Zhel.dor.transp. 37 no.1:61-63 Ja '56. (MLRA 9:3)

(Railroads--Track)

FRISHMAN, M.A., doktor tekhn.nauk, prof.; ISAKOV, I.F., kand.tekhn.nauk, dotsent; VOLOSHKO, Yu.D., kand.tekhn.nauk, dotsent; BONDARENKO, Ye.P., kand.tekhn.nauk

Experimental study of the performance of tracks with reinforced concrete ties. Trudy DIIT no.30:5-24 '60. (MIRA 14:12)
(Railroads--Ties, Concrete)

FRISHMAN, M.A., doktor tekhn.nauk, prof.; VOLOSHKO, Yu.D., kand.tekhn.nauk, dotsent

Ways of obtaining more accurate calculated values of the modules of elasticity of the rail support. Trudy DIIT no.30:118-121 '60. (MIRA 14:12)

(Railroads--Track)
(Railroad engineering)

VOLOSHKO, Yu.D., kand.tekhn.nauk (Denpropetrovsk); LEVANKOV, I.S., inzh. (Denpropetrovsk)

"Problems in the preparation of railroad tracks for high speed traffic" by O.P.Ershkov. Reviewed by IU.D.Volshko, I.S.Levankov. Put' i put.khoz. 5 no.11:44 N '61. (MIRA 14:12)

(Railroads--Track)
(Ershkov, O.P.)

FRISHMAN, M.A., doktor tekhn.nauk (Dnepropetrovsk); VOLOSHKO, Yu.D., kand.tekhn.nauk (Dnepropetrovsk)

Six-axle gondola cars need good three-axle trucks. Zhel.dor. transp. 44 no.1:60-62 Ja '62. (MIRA 14:12)
(Railroads--Freight cars)

FRISHMAN, M.A., prof. (Dnepropetrovsk); SHATERKOV, V.I., dotsent (Dnepropetrovsk); VOLOSHKO, Yu.D., dotsent (Dnepropetrovsk); ORLOVSKIY, A.N., inzh. (Dnepropetrovsk)

Performance of switches laid on reinforced concrete slabs. Put' i put.khoz. 7 no.7:11-12 '63. (MIRA 16:10)

SEMENCHENKO, F.Ya., Geroy Sotsialisticheskogo truda, starshiy dorozhnyy master; ISAKOV, I.F., kand. tekhn. nauk; KOBETS, N.G., starshiy dorozhnyy master; VOLOSHKO, Yu.D., kand. tekhn. nauk; CHERKASSKIY, M.M., inzh.; SHATERKOV, V.I., kand. tekhn. nauk; LIPOVSKIY, R.S., kand.tekhn.nauk; FRISHMAN, M.A., prof., red.; POTOTSKIY, G.I., inzh., red.; VOROB'YEVA, L.V., tekhn. red.

[Current maintenance and repair of tracks]Tekushchee soderzhanie i remont puti; opyt puteitsev Nizhnedneprovsk-Uzlovskoi distantsii Pridneprovskoi dorogi. Moskva, Transzheldorizdat, 1962. 55 p. (MIRA 16:1)

(Railroads--Maintenance and repair)

FRISHMAN, M.A., doktor tekhn.nauk, prof.; VOLOSHKO, Yu.D., kand.tekhn. nauk, dotsent

Basic results of the study of the action of six-axle gondola cars on the track. Vest.TSNII MPS 21 no.2:40-44 '62. (MIRA 15:4)

1. Dnepropetrovskiy institut inzhenerov zheleznodorozhnogo transporta.

(Car axles--Testing)

VOLOSHKO, Yu.D., kand.tekhn.nauk, dotsent

Studying the kinematic factors determining the permissible train speeds on the side tracks of cross switches. Trudy DIIT no.30:163-187 '60. (MIRA 14:12)
(Railroads--Train speed)

VOLOSHYN, F., podpolkovnik.

Preparing automotive and tractor equipment for tactical exercises.
Voen.vest. 37 no.8:52-55 Ag '57. (MIRA 10:10)
(Automobiles, Military--Maintenance and repair)

ACCESSION NR: AP4017397 S/0185/64/009/002/0192/0195

AUTHOR: Voloshy*n, V. A.; Goryushko, G. G.; Kul'chy*ts'ky*y, V. O.

TITLE: Energy States of Benzoylacetate rare-earth complexes in a polymethylmethacrylate host.

SOURCE: Ukrayins'ky*y fizy*chny*y zhurnal, v. 9, no. 2, 1964, 192-195

TOPIC TAGS: rare-earth chealate, chealate luminescence, organic laser material, luminescence europium benzoylacetate, terbium benzoylacetate, europium chealate, terbium chealate, polymethylmethacrylate chealate host, copolymerization, rate-earth-organic complex

ABSTRACT: Brightly luminescing polycrystalline europium benzoylacetate (EBA) in a polymethylmethacrylate (PMM) host luminesces just as brightly as without the host. The basic characteristics of the luminescence spectrum are unchanged, and likewise for the absorption spectra. These were studied between 2800 and 3700 A. Luminescence spectra were taken at room temperature and at liquid nitrogen, hydrogen and helium temperatures with ISP-51 and STE-1 instruments.

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Absorption spectra were taken at room temperature only on a SF-4 apparatus. Terbium benzoylacetate (TBA), in contrast to EBA, ceases luminescing in a PMM host, and its absorption spectrum changes sharply. The comparison is shown in Figures 1 and 2 of Enclosure 01. The conclusion is that EBA dissolves in PMM, while TBA copolymerizes. "The authors, in conclusion, consider it their pleasant duty to thank their colleagues at the Institute of Physics of the Ukrainian Academy of Sciences, D. F. Sheka and G. V. Kly*mushoviy for their assistance and helpful discussions." Orig. art. has 2 figures

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